

REMARKS

Reconsideration of the present application, as amended, is respectfully requested. As indicated by the Applicant to the Examiner during a telephone conference on May 27, 2008, Applicants hereby elect Group I, drawn to a method (claims 27-35) for prosecution.

I. STATUS OF THE CLAIMS

Claims 27-39 are currently pending. Claims 36-39 have been withdrawn due to a restriction requirement. Claims 27, 30 and 31 have been amended herewith to more particularly point out and distinctly claim that which Applicants regard as their invention. In addition, withdrawn claims 36-39 have been canceled herewith without prejudice. Moreover, new claims 40-45 have been added and these new claims are drawn to the elected Group I.

Support for the above amendments and new claims can be found throughout the specification as originally filed. No new matter has been added by virtue of this amendment.

II. U.S.C 103 (a) Rejections

Claims 27-35 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,919,931 to Chae (“the Chae patent”) in combination with U.S. Patent No. 6,524,663 to Kelly et al. (“the Kelly patent”) or U.S. Patent Application Publication No. US 2003/0124259A to Kodas et al. (“the Kodas publication) and U.S. Patent No.6,365,968 to Qian (“the Qian Patent”).

In response, it is respectfully submitted that the Chae, Kelly, Kodas and Qian references alone or in combination fail to teach or suggest all of the features as recited in amended claims 27, 30 and 31 for at least the reasons set forth below.

The Kelly references at the very least fails to teach or suggest a method which includes directly forming a final metal pattern by developing an organometallic layer as required by claim 27 or developing the organometallic layer to thereby directly form at least one of the gate wire, the data wire and the pixel electrode, as required by claims 30 and 31. The Examiner likewise

concedes on page 9 of the instant Office Action that the Kelly references fails to teach directly forming a metal pattern or one of the gate wire, data wire and the pixel electrode using the developing step recited in claims 27, 30 and 31. Thus, it is unclear to Applicants, how the Examiner can also state on page 9 of the instant Office Action that Kelly teaches the same technique as claimed in claims 27, 30, 31 when in fact Kelly clearly does not teach or suggest directly forming a metal pattern or directly forming at least one of a gate wire, data wire and pixel electrode by developing an organometallic layer as required by claims 27, 30 and 31. Rather, as discussed previously, in the method described in Kelly, the direct product made by the organometallic compound is only a surface activation film, i.e., a seed film for electroless plating. Thus, Kelly requires that additional steps, such as electroless plating be performed on the surface activation film before a final metal film is formed which can be used for wires, etc. Accordingly, Kelly at the very least clearly fails to teach or suggest the above-mentioned features and consequently does not teach the same method or technique as recited in claims 27, 30 and 31.

In addition, besides failing to teach or suggest the above-mentioned features, Kelly at the very least also fails to teach or suggest a method which includes forming an organometallic layer by coating a photosensitive organometallic complex, wherein the photosensitive organometallic layer consisting of one of an Ag transition compound containing Ag and an ultraviolet sensitive organic ligand or an Al transition compound containing Al and an ultraviolet sensitive organic ligand, as required by amended claims 27, 30 and 31. In contrast, in Kelly, the dried coating containing the surface active compound which is subsequently exposed to irradiation such as ultraviolet light does not include either an Ag transition compound or an Al transition compound as required by amended claims 27, 30 and 31.

Thus, for at least the reasons set forth above, Kelly clearly fails to teach or suggest all of the features recited in amended claims 27, 30 and 31.

In addition, the Kodas reference likewise fails to teach or suggest all of the features recited in amended claims 27, 30 and 31. In particular, Kodas fails to teach or suggest a method which includes forming an organometallic layer by coating a photosensitive organometallic complex, wherein the photosensitive organometallic layer consisting of one of an Ag transition

compound containing Ag and an ultraviolet sensitive organic ligand or an Al transition compound containing Al and an ultraviolet sensitive organic ligand, as required by amended claims 27, 30 and 31. Instead, Kodas teaching providing a dried metal precursor composition which includes metal precursors together with other components such as, for example, temperature reaction conversion inducing agents, additives, particles, and polymers, together in the same dried metal precursor composition. However, the language "consisting of", now recited in claims 27, 30 and 31 clearly excludes the photosensitive organometallic layer from being composed of materials other than one of an Ag transition compound containing Ag and an ultraviolet sensitive organic ligand or an Al transition compound containing Al and an ultraviolet sensitive organic ligand . (See MPEP 2111.03). In other words, Kodas is silent regarding forming an organometallic layer composed of only the material recited in amended claims 27, 30 and 31.

Thus, as with Kelly, Kodas likewise at the very least fails to teach or suggest a method which includes forming an organometallic layer by coating a photosensitive organometallic complex, wherein the photosensitive organometallic layer consisting of one of an Ag transition compound containing Ag and an ultraviolet sensitive organic ligand or an Al transition compound containing Al and an ultraviolet sensitive organic ligand, as required by amended claims 27, 30 and 31. Moreover, the Chae and Qian references fail to cure the above-mentioned deficiencies of the Kelly and Kodas references because the Chae and Qian references at the very least likewise fail to teach or suggest a method which includes forming an organometallic layer by coating a photosensitive organometallic complex, wherein the photosensitive organometallic layer consisting of one of an Ag transition compound containing Ag and an ultraviolet sensitive organic ligand or an Al transition compound containing Al and an ultraviolet sensitive organic ligand, as required by amended claims 27, 30 and 31.

In addition to the reasons set forth above, amended claims 30 and 31 are even further distinguished over the cited art of Chae, Kelly, Kodas and Qian references alone or in combination with each other for at least the reasons set forth below. Claims 30 and 31 have been amended herewith to clarify that the thin film transistor array panel includes a protective layer having an embossed surface structure, and the embossed surface structure is simultaneously formed along with the contact holes of the protective layer. Moreover, in the method recited in

amended claims 30 and 31, the process is performed using one photoresist pattern having a position dependent thickness. However, the cited art of Chae, Kelly, Kodas and Qian references alone or in combination with each other fail to teach or suggest a method of manufacturing a thin film transistor array panel which includes the above-mentioned features recited in amended claims 30 and 31.

Therefore, for at least the reasons set forth above, withdrawal of the rejection to claims 27, 30 and 31 is respectfully requested. As claims 28-29 depend from amended claim 27 and claims 32-35 depend from amended claims 30 and 31, withdrawal of the above-rejections to these dependent claims is likewise requested for at least the reasons set forth above with regard to amended claims 27, 30 and 31. Moreover, as new claims 42-43 depend from claim amended claim 27, new claims 40 and 44 depends from amended claim 30 and new claim 41 and 45 depends from amended claim 31, these new claims are likewise patentable over the cited art of Chae, Kelly, Kodas and Qian references alone or in combination with each other for at least the same reasons as set forth above with regard to amended claims 27, 30 and 31.

Lastly, in addition to the reasons mentioned above, it submitted that new claims 40 and 41 are even further distinguishable over the Chae, Kelly Kodas and Qian references alone or in combination with each other for at least the reasons set forth below. In particular, Chae, Kelly Kodas and Qian references each fail to teach or suggest a method of manufacturing a thin film transistor which includes forming a protective layer with an embossed surface on the data wire, and forming a pixel electrode, a subsidiary gate pad and a subsidiary data pad directly on the embossed surface of the protective layer, as required by new claims 40 and 41.

As conceded by the Examiner in the instant Office Action, the Chae, Kelly and Kodas references fail to teach or suggest forming a protective layer having an embossing surface. (See page 8 of the instant Office Action). The Examiner attempts to cure the above deficiencies of Chae, Kelly and Kodas by citing the Qian patent and stating that Qian teaches forming an embossing surface on a protective layer 118.

However, it is submitted that the teachings of Qian combined with the Chae, Kelly and Kodas still fail to meet all of the limitations recited in new claims 40 and 41. Rather, layer

118 (referred to by the Examiner as corresponding to a protection layer) does not have an embossed surface. Instead, in Qian, polyimide layer 116A, B is roughed but not layer 118. Rather, Qian teaches forming a silicon oxide interlayer 122 directly on a roughened surface of polyimide layer 116A, B, but Qian fails to teach or suggest forming a pixel electrode, a subsidiary gate pad and a subsidiary data pad directly on the embossed surface of a protective layer, as required by new claims 40 and 41. In other words, in Qian, only the silicon oxide interlayer 122 is formed directly on a roughened surface (i.e. the polyimide layer 116A, B), but there is no teaching or suggestion of a pixel electrode, a subsidiary gate pad and a subsidiary data pad directly on an embossed surface of a protective layer, as required by new claims 40 and 41. Thus, even if one skilled in the art were to apply the teachings of Qian to Chae and Kelly or to Chae and Kodas as proposed by the Examiner, one skilled in the art would still fail to arrive at a method of manufacturing a thin film transistor which includes forming a protective layer with an embossed surface on the data wire, and forming a pixel electrode, a subsidiary gate pad and a subsidiary data pad directly on the embossed surface of the protective layer, as required by new claims 40 and 41. Thus, new claims 40 and 41 are each patentable over the cited art, for at least the reasons set forth above.

III. Conclusion:

In summary, applicants respectfully submit that the instant application is in condition for allowance. Early notice to that end is earnestly solicited.

If a telephone conference would be of assistance in furthering prosecution of the subject application, applicants request that the undersigned be contacted at the number below.

Respectfully submitted,



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